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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,662	02/27/2004	Hans Peter Bluem	63951/P013US/10211125	7571

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EXAMINER

A, MINH D

ART UNIT PAPER NUMBER

2821

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/789,662

**Applicant(s)**

BLUEM, HANS PETER

**Examiner**

Minh D. A

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

**Claim Rejections - 35 USC § 102**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Aucouturier et al (US 5,506,473).

Regarding claim 1, Aucouturier discloses an electron gun, comprising: a cathode (K) having a longitudinal axis and operable to generate an electron beam along the longitudinal axis when driven by resonant electromagnetic radiation of a particular frequency; a cavity (1 and 10) surrounding the cathode (K) and operable to resonate when electromagnetic radiation of the particular frequency is introduced into the cavity (1 and 10); and an energy input (conductor (2)) coupled to the cavity (1 and 10) and operable to introduce electromagnetic radiation of the particular frequency into the cavity (1 and 10) along the longitudinal axis of the cathode (K). See figures 1-2, col.2, lines 10-67 to col.2, lines 1-37.

Regarding claims 2 and 10, Aucouturier discloses the cavity is axisymmetric around the longitudinal axis. See figure 1.

Regarding claims 3 and 11, Aucouturier discloses the electron gun further comprises a solenoid (12) disposed around the cavity and operable to produce a magnetic field that reduces transverse emittance of the electron beam; and the solenoid

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is operable to be positioned at any point along the length of the cavity in order to adjust the amount of reduction of the transverse emittance of the electron beam. See figure 1, col.3, lines 5-55.

Regarding claims 4, Aucouturier inherently discloses the cavity comprises one or more booster cells; and an exit channel, since cavity show the exit (25 and 15). See figure 1.

Regarding claim 5, Aucouturier discloses the energy input (2 or conductor (2)) comprises a coaxial line having a center conductor; and the cathode (K) comprises an extension of the center conductor of the coaxial cable. See figure 1.

Regarding claims 6 and 12, Aucouturier discloses the cathode is operable to be selectively positioned in the cavity so that changing the position of the cathode in the cavity changes the particular frequency at which the cavity resonates. See figures 1-2.

Regarding claim 7, Aucouturier discloses the cathode (K) is selectively positioned by a connector coupling the coaxial cable to the cavity(87).

Regarding claims 8 and 14, Aucouturier discloses the cavity (1 and 10) comprises an endwall operable to be selectively deformed to change the particular frequency at which the cavity resonates. See figure 1.

Regarding claim 9, Aucouturier discloses a cavity operable to resonate when electromagnetic radiation of a particular frequency is introduced into the cavity; and a coaxial line coupled to the cavity having a center conductor that extends into the cavity, the center conductor operable to produce an electron beam along a longitudinal axis of the coaxial cable when driven by resonant electromagnetic radiation of the particular

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frequency, wherein the coaxial line is operable to introduce electromagnetic radiation of the particular frequency into the cavity along the longitudinal axis of the coaxial cable.

See figures 1-2, col.2, lines 10-67 to col.2, lines 1-37.

Regarding claim 15, Aucouturier discloses electron gun for providing a cavity operable to resonate when electromagnetic radiation of a particular frequency is introduced into the cavity; providing a cathode within the cavity operable to generate an electron beam along a longitudinal axis when being driven by resonant electromagnetic radiation of the particular frequency; and introducing electromagnetic radiation of the particular frequency into the cavity along the longitudinal axis of the cathode. See figures 1-2, col.2, lines 10-67 to col.2, lines 1-37.

Regarding claim 16, Aucouturier discloses elements (26 and 31) for adjusting the particular frequency at which the cavity resonates by repositioning the cathode; and introducing electromagnetic radiation of the new resonant frequency into the cavity along the longitudinal axis of the cathode. See figure 2.

Regarding claim 17, Aucouturier discloses the solenoid (12) for reducing transverse emittance of the electron beam by disposing a solenoid around the cavity. See figure 1.

Regarding claim 18, Aucouturier discloses elements (26 and 31) for adjusting the particular frequency at which the cavity resonates by selectively deforming an end-wall of the cavity; and introducing electromagnetic radiation of the new resonant frequency into the cavity along the longitudinal axis of the cathode. See figures 1-2.

Regarding claim 19, Aucouturier discloses the electromagnetic radiation is introduced into the cavity by a coaxial line coupled to the cavity; and the cathode comprises an extension of a center conductor of the coaxial cable. See figures 1-2.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lebouter et al (US 5,506,473) and Soffer et al (US 5,506,473) are cited to show an electron gun.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 –2:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and (703) 872-9319 for final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-1553.

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Examiner

Minh A

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6/21/05

A handwritten signature in black ink, appearing to read 'Wilson Lee', with a stylized flourish at the end.

**WILSON LEE**  
**PRIMARY EXAMINER**